

# Health Impact of Agricultural Activities on Female-Workers: A Theoretical Review

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## ABSTRACT

The production of agricultural products has been increased year by year in our country after the adoption of green revolution. It helps to reduce the shortage of food but with the excess usage of pesticides, insecticides our food become poisonous. The workers who involved in these activities specially females are unaware from the adverse effects of it on their health. Also, due to agricultural activities their body posture got imbalanced as they worked for long hours in farms and they feel pain in various body parts. The problem is that farm women don't want to know about the reason of their unhealthy situation. Government should organize seminars, awareness programmes regarding use of modern agricultural techniques, for intake of healthy diet and make some policies in favor of farm women.

**KEYWORDS:** *agriculture, women health problems, awareness, knowledge*

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## INTRODUCTION

The rate of economic development of an economy depends upon activities of economy agents such as capital, land, technology and intellectual capital or human capital when they organize economic activities and act upon natural resources (Gill, 2014). India is one of the rapidly growing economies in developing countries since the 1990's with an average growth rate of approximately 7 percent (Kapila, 2007). According to UN Human Development Report (2016), India is ranked 131<sup>st</sup> out of 188 countries with Human Development Index of 0.624 whereas according to World Bank's Universal health Coverage (UHC) index India has 157<sup>th</sup> rank according to the per capita government spending on health (\$44 PPP in 2011) which is used for measuring the progress made in health sectors in various selected countries of the world.

Agriculture is the primary sector and backbone of our Indian economy. It contributes 17 per cent share in GDP in 2013 - 14. Agriculture carried out with Labor Intensive Technologies and in 2014, there are about 49 percent of workforce engaged in agriculture (CIA World Fact book) out of which 85 percent of rural woman done primary activities involved in agriculture (Kapila, 2007).

Green revolution helps in uplifting the standard of living of people and help in reducing the population below poverty line (Singh et al., 2014). One of the most important achievements of green revolution in our country is the self-sufficiency of attainment of food-grains production. But with excessive use of agro chemicals (pesticides, chemicals,

insecticides) in agriculture has created various health hazards (Romana, 2014).

In developing countries, women are more engaged in agriculture activities so they get more affected with the use of agro-chemicals on crops. Masses thought women work in agriculture is not hazardous for their health, led to ignorance of many health related problems. In Punjab during 1979-80, 130 samples of mother's milk were collected and it contained residues of DDT (0.052mgs per kg milk) & HCH (0.18 mgs per kg of milk). This problem was quite serious in cotton belt area of Punjab due to excessive use of pesticides (Singh et al., 2014).

## Objective of the Study

The main objective of the paper is to analyze the ideas of other research scholars regarding 'Health impact of Agricultural Activities on female-workers' and various types of health problems faced by women while involving in agricultural activities.

## Methodology

The research paper is based on secondary data sources- NFHS reports and various Journals like International Journal of Occupational and Environment Health, Pakistan Journal of Agriculture Science, Agriculture Update, Journal Ergonomics & BMC Public Health etc.

## Theoretical Framework

Many research studies related to impact of Agricultural Activities on female-workers health have been reviewed. It

provides a wide range of work done previously in the related field. Following are various studies relevant to this research study.

**Joia et al. (1978)** collected a sample of wheat flour from 140 houses of different cities of Punjab which contain DDT & HCH residues. 61 percent samples had DDT residues. Later, ban on use of DDT and HCH reduced their residues in the cereals, but excessive use of pesticides is posing a great danger to food items and to the human health from which people are unaware (Romana, 2014).

**London et al. (2002)** has reviewed article on pesticide usage and health consequences for women in developing countries as these countries are engaged in excess usage of pesticides while their global turnovers remain small (about 25%). In developing countries, women are typically lived in lower paid and low status work. Large number of poisoning cases found in women applicators because women have directly and indirectly applications of pesticides and faced problems like cancer, skin problems, respiratory problems etc. Masses thought women work in agriculture is not hazardous for their health, led to ignorance of many health related problems.

**Haq et al. (2008)** have made study on orientation of cotton growers to assess knowledge and source of knowledge regarding the usage of pesticide related health hazards of the cotton growers and cotton pickers. For this study, 220 cotton growers and 150 female cotton pickers were interviewed and the study concludes that 75 percent cotton grower farmers were having orientation with health problems of pesticides on human beings, 17 percent respondents had little knowledge while 8 percent had no awareness regarding pesticides exposure. Cotton pickers have less knowledge about pesticide relation with asthma and neuromuscular aches as compared to breast cancer, dermatitis, abortion and cataract. The cotton growers (male) have main source of information regarding use of chemical pesticides are television and pesticide dealers while radio, newspapers, journals, neighbors are least used whereas in case of female cotton pickers they received information from their neighbors and friends.

**Naidoo et al. (2008)** tried to define the agricultural activities and use of pesticide among women working in small farms of South Africa and compare the agricultural activities of working women on Irrigation scheme and Drylands areas. The study showed that 45.6 percent women did pesticide sprays themselves. 45.6% sprayed more pesticides from the Drylands than the Irrigation scheme and have high risk for adverse ergonomic health outcomes in case of the Drylands' women. The study recommended that pesticide related health hazards like musculoskeletal pain, poisonings and reproductive abnormalities should be evaluated seriously.

**Patil and Debesetty (2008)** analyzed the problems of employed female agricultural labourers with a sample of 102 female agricultural labourers of Maharashtra out of which 50 female agricultural labourers were between the ages of 30-35 years considered as group-I and other 52 female agricultural labourers were in group-II between the age group of 35-40 years. The study shows the health problems in female agricultural labourers of group-I and group-II were headache (78% and 84% respectively), backache (62% and 82%), joint pains (58% and 80%) and suffered from fever (24% and 36%). Socio-emotional problems were highly

significant in group-I due to hamper, short-tempered whereas it was vice-versa in group-II.

**Devi (2009)** analyzed study to quantify the occupational health risks among farm workers due to pesticides exposure and assess costs associated with the health. For this purpose, data was collected from a sample size of 280 pesticide applicators and 101 agricultural laborers by personal interview. The estimated cost on health for agricultural laborers and applicators on non-applying days, found to be similar. Various health problems like skin irritation/itching, vomiting, dehydration were reported may result into admitting the applicators into hospitals and hospital expenditure ranged from Rs.450 to Rs.3780. Respondents are aware about protective measures but none of them use it. It results in health damage of Rs.38 per day per person.

**Tahir and Anwar (2012)** have made study to provide information on the impact of hazardous pesticides on female health residing in cotton growing areas of Punjab, Pakistan. The sample consist of two female groups (age between 13-35 years) as cotton pickers and non-cotton pickers having 30-37 female in each group. Total 180 blood samples of respondents were taken during pre-season (before spray June to July) and post-season (after sprays in October month). Cholinesterase enzyme (ChE) was decreased in post-season. 30 female cotton pickers suffered from nausea, head ache, skin irritation, vomiting, general weakness, fever and blisters during post season while 46 percent women have cuts on hands and have broken skin. 11 females with low ChE activity reported head ache, vomiting, nausea, itching, muscular pain and stomach cramps.

**Aggarwal et al. (2013)** have made a study to analyze the various kinds of activities performed by the rural women and to assess their problems during these activities. A sample of randomly selected 150 farm women age group of 20-45 years was interviewed. Almost (95.3%) respondents suffer from back ache, head ache and fatigue while 60.6 percent women work under unhygienic conditions at farms. 80 percent of women have not balanced and healthy diet. Except this they also faced social, management and financial problems.

The study made by **Dwivedi and Kiran (2013)** is on occupational health hazards among farm women. The objective of the present study is to assess the occupational health problems among farm women and analyze the parts of body discomfort among farm workers. The study shows that most of the farm women feel high stress during work. Majority of respondents felt pain in lower arms which lead to musculoskeletal pain in various body parts. The study concludes that majority of farm workers have high incidence of hazards.

**Murthy and Madhuri (2013)** have made study on empowering rural women & occupational health hazards of farm women engaged in different activities of agriculture. A sample size of thirty farm women age group of 30-45 years was selected. The farm women engaged in weeding activities suffer from pain and discomforts more in legs, arms, musculoskeletal disorders due to their static squatting postures while 50 percent felt shoulder pain. The data shows that a high percentage of farms female suffered from pain in different parts of body and resulted for occupational health hazards. The activities like weeding, sowing and transplanting causes physical type of occupational health

problems. Most of the respondents were unaware about use of modern equipments.

The study made by **Joshi et al. (2014)** is on conditions and consequences of Involvement of Farm-women in agriculture and off-farm activities in Mountain Region of Uttarakhand. A sample of fifty hill farm women (age group of 30-35 years) was taken for data collection. 53% of farm women respondents suffered from fever and symptoms of head ache, body ache, injuries, illness, and stress in neck, arms, shoulders, muscular disorder and eye irritation are recognized. Poor body posture has been reported the reason for musculoskeletal disorders. Most of the agricultural activities are full of drudgery leads to pain in different parts of body which are high risk factors in farm women for muscular stresses.

The study made by **Abbas et al. (2015)** is to analyze the problems faced by cotton pickers due to pesticide exposure. For this purpose, 150 women cotton pickers were interviewed in 2013. The study shows that only 8.7 percent women cotton pickers were aware about problems related to health due to pesticide exposure. They faced problems like tiredness (54%), mental retardness (9.9%), fatigue (8%), eye irritation, stomach problems, blisters, skin rashes caused by pesticides sprays on cotton.

**Odeleye (2015)** has reviewed study to consider various causes of health problems, occupational health problems and effect of occupational hazards. The major causes of health problems are poor nutrition, insect bites, unsanitary conditions and bad odor and the major problems faced by rural women in Nigeria are malaria, nutritional stress which further causes anemia and AIDS/HIV. The occupational health hazards due to heavy household work, multiple pregnancies and malnutrition which effect health of poor rural women. Rural women facing occupational hazards are muscular fatigue, skeletal disorders, miscarriages, respiratory diseases, sunburn, migraines, and bad effect on pregnancies, head ache, nausea, abdominal pain, vomiting, watery diarrhea, convulsion, fever and weakness. They have limited access to the health services and poor health diminishes their productivity.

The study made by **Baksh et al. (2016)** is to examine and compare the impact and health cost of female cotton pickers working in BT and non-BT cotton fields. The study related data collection was done from 270 randomly selected cotton pickers. The study concludes that household from both BT and non-BT cotton are exposed to pesticides whereas, cotton pickers in BT cotton fields are less exposed as compared to non-BT cotton fields and have less occupational hazards. Health cost of cotton pickers in case of BT cotton households is US\$ 2.91 and 5.74\$ per season for non-BT cotton households. Few cotton pickers are using preventive measures during field work. Thus awareness should be generating regarding use of safety precautions during work at cotton fields can result in reducing the ill effects of cotton picking.

The study made by **Maratha and Badodiya (2016)** is on impact of health hazards in agricultural operations on farm women. A sample of 120 farm women was chosen. There are various health hazards involved in different operations viz. skin allergies and irritation, poisonings, cuts and wounds, congestion, injuries, breathing problems, swollen and sore hands and feet, body ache, tiredness, eye irritation found in farm women (to 48.33%) during farm activities.

**Tarar et al. (2016)** have made study to find out the health problems faced by farm working women along with factors accelerating their poor health as well as their socio-economic characteristics. A sample of 160 farm working women was interviewed. The study concludes that 90.6 percent respondents faced health problems during last two seasons. Due to pesticide exposure and heavy burden of work, women were facing many health problems. 60 percent respondents faced physical sickness, 51.9 percent faced mental diseases and 78.8 percent have mental stress, 33.1 percent faced reproductive health problems, asthma (78.8%), 95.6 percent respondents marked that socio-economic stress was the reason of health problems while 93.8 percent faced pesticide related health problems.

## Conclusion

One of the most important achievements of green revolution in our country is the self-sufficiency of attainment of food-grains production. But, excessive use of pesticides gives birth to too many health hazards. The contents of pesticides found in food-grains due to which masses faced lots of health issues and surprise is that they are unaware about the reason of their low health. There is requirement of training to employees exposed to pesticides hazards, safety measures and related adverse health effects. Efforts should be made to improve the condition of women including in agricultural activities by providing medical facilities, educate them for taking healthy diet, organizing various trainings, awareness camps, seminars. Requirement is to open more Primary Health care centers in rural areas for rural women regarding the betterment of their health. Also, Government should make some policies in favour of farm women and aware them about the use of modern agriculture techniques and equipment which helps them to relief from squatting postures or from uncomfortable body positions. Self-help groups and unionization provide women an opportunity to assert collective rights otherwise health consequences will remain out of sight and out of mind.

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